UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,043	01/29/2004	Michael Robert Burke	ROC9200300351US1	4830

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EXAMINER
PARK, JEONG S

ART UNIT	PAPER NUMBER
2454	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/767,043	BURKE ET AL.
	Examiner	**Art Unit**	
	JEONG S. PARK	2454	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *28 January 2009*.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-3,5-8,10-19 and 22-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,5-8,10-19 and 22-25* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to Application No. 10/767,043 filed on

1/29/2004. The amendment presented on 1/28/2009, which amends claims 1, 3, 5, 7,

10-15 and 18, and adds claim 26, is hereby acknowledged. Claims 1-3, 5-8, 10-19 and

22-26 have been examined.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 5-8, 10-12, 15-19 and 22 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Bhogi et al. (hereinafter Bhogi)(U.S. Pub. No. 2004/0088413

A1) in view of Yamada et al. (hereinafter Yamada)(U.S. Patent No. 5,365,582).

Regarding claims 1, 18 and 19, Bhogi teaches as follows:

a method of configuring a server computer having a connection pool (a

dynamically configurable resource pool used in a connection pool for server systems,

see, e.g., abstract), comprising:

initializing a connection pool (a initial connection pool size is used to determine

the number of connections that the connection pool manager will generate upon

initialization of the connection pool, see, e.g., page 5, paragraph [0040]) for a data

source (a connection pool services requests for connections to a backend system

resource, see, e.g., page 2, paragraph [0011], wherein the system resource is

equivalent to applicant data source);

generating heuristic override information (requestor (110 in figure 1) generates a

request to change the configuration of the resource pool 100 in figure 1, see, e.g., page

3, paragraph [0025], lines 8-11), wherein the heuristic override information comprises a

plurality of rules that specify a time period and a maximum number of connections

(maximum pool size, see, e.g., page 5, paragraph [0040], lines 21-25) for that time

period (requestor requests configuration change at the current time, see, e.g., page 3,

paragraph [0025] and the main unit holds the requested configuration change and

asynchronously update the configuration when the resource pool reaches a safe point,

see, e.g., page 5, paragraph [0041]);

receiving a heuristic timer interrupt event (receiving request to change maximum

number of connections 600 in figure 6, see, e.g., page 5, paragraph [0042]);

in response to the heuristic timer interrupt event (configuration change request is

interpreted as the heuristic timer interrupt event, see, e.g., page 4, paragraph [0030]);

determining a current time of day (whenever the requestor 110 in figure 1

generates the request change of configuration it is inherent to have the record of the

requested time of day);

determining a connection current pool size (request for current connection pool

statistics by providing current values for connection pool usage parameters such as

total number of connections in the pool and total number of connections in use, see,

e.g., page 4, paragraph [0031]); and

adding new connections to the connection pool if the current connection pool size

is less than the than the specified maximum number of connections associated with the

current time of day (establish connection, see, e.g., page 6, paragraph [0048] and steps

810 and 815 in figure 8).

Bhogi teaches all the limitations of claim with a dynamic reconfiguration request

to change the maximum number of connections at the current time as presented above

instead of requesting reconfiguration at pending time as scheduling the maximum

number of connections for certain period of time.

Yamada teaches the deficiency of requesting a scheduled reconfiguration as

follows:

a maximum connection number management table with the maximum number of

connection defined for each time period (see, e.g., col. 12, lines 12-23); and

the maximum number of connections corresponding to the present time period is

read from the pattern data corresponding to the pattern (see, e.g., col. 12, lines 24-37).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Bhogi to include requesting a scheduled reconfiguration as taught by

Yamada in order to automatically change the maximum number of connections based

on the predetermined schedule.

Regarding claims 2 and 3, Bhogi teaches as follows:

the connection pool is initialized using a plurality of initial settings wherein the

plurality of initial settings comprises a maximum number of connections (an initial

connection pool size is used to determine the number of connections that the

connection pool manager will generate upon initialization of the connection pool, see,

e.g., page 5, paragraph [0040], lines 18-21).

Regarding claims 5 and 6, Bhogi teaches as follows:

the heuristic override information comprises a heuristic override setting and a

time period, wherein the heuristic override setting comprises a maximum number of

connections (interpreted as a maximum pool size, see, e.g., page 5, paragraph [0040],

lines 21-25), wherein the time period comprises at least one of a time of day, a day of

week, and a day of year (whenever the requestor 110 in figure 1 generates the request

change of configuration it is inherent to have the record of the requested time of day).

Regarding claims 7 and 15-17, Bhogi teaches as follows:

a method of operating a server, comprising:

initializing a connection pool with an initial maximum number of connections (a

initial connection pool size is used to determine the number of connections that the

connection pool manager will generate upon initialization of the connection pool, see,

e.g., page 5, paragraph [0040]) for a data source (a connection pool services requests

for connections to a backend system resource, see, e.g., page 2, paragraph [0011],

wherein the system resource is equivalent to applicant data source);

applying heuristic information (interpreted as configuration parameters, see, e.g.,

page 5, paragraph [0040])(requestor 110 in figure 1, which is a component of the server

140 in figure 1, generates a request to change the configuration of the resource pool

100 in figure 1, see, e.g., page 3, paragraph [0025], lines 8-11) to modify the maximum

number of connections (the main unit 240 in figure 2 implements the requested new

configuration upon receiving a configuration change request while current resource

utilization continues undisturbed, see, e.g., page 5, paragraph [0041], lines 1-10),

wherein the heuristic override information comprises a heuristic override and a time

period associated with the override (requestor requests configuration change at the

current time, see, e.g., page 3, paragraph [0025] and the main unit holds the requested

configuration change and asynchronously update the configuration when the resource

pool reaches a safe point, see, e.g., page 5, paragraph [0041]);

in response to receiving a request to connect (connection requests, see, e.g.,

page 4, paragraph [0030]):

detecting a current number of connections (request for current connection pool

statistics by providing current values for connection pool usage parameters such as

total number of connections in the pool and total number of connections in use, see,

e.g., page 4, paragraph [0031]);

determining a current time of day (whenever the requestor 110 in figure 1

generates the request change of configuration it is inherent to have the record of the

requested time of day); and

if the current number of connections is less than the modified maximum number

of connections for the time period associated with the current time of day, creating a

new connection (establish connection, see, e.g., page 6, paragraph [0048] and steps

810 and 815 in figure 8).

Bhogi teaches all the limitations of claim with a dynamic reconfiguration request

to change the maximum number of connections at the current time as presented above

instead of requesting reconfiguration at pending time as scheduling the maximum

number of connections for certain period of time.

Yamada teaches the deficiency of requesting a scheduled reconfiguration as

follows:

a maximum connection number management table with the maximum number of

connection defined for each time period (see, e.g., col. 12, lines 12-23); and

the maximum number of connections corresponding to the present time period is

read from the pattern data corresponding to the pattern (see, e.g., col. 12, lines 24-37).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Bhogi to include requesting a scheduled reconfiguration as taught by

Yamada in order to automatically change the maximum number of connections based

on the predetermined schedule.

Regarding claim 8, Bhogi teaches as follows:

detecting a connection having an unused time (idle time) greater than a time-out

value (connection idle time) and deleting the connection (see, e.g., page 6, paragraph

[0052], lines 27-33).

Regarding claim 10, Bhogi teaches as follows:

in response to receiving a request to connect, resetting an unused time

(maximum idle connection time parameter, see, e.g., page 5, paragraph [0040], lines

31-34) associated with every available connections (it is inherent to reset the idle

connection time when receiving connection request).

Regarding claim 11, Bhogi teaches as follows:

if the current number of connections is greater than or equal to the maximum

number of connections, waiting for a connection to become available (the current pool

size is equal to the maximum pool size then the wait queue unit 250 in figure 2 places

the request for connection on the wait queue, see, e.g., page 6, paragraph [0049] and

figure 8 step 810, 840, 845, 850 and 855).

Regarding claim 12, Bhogi teaches as follows:

in response to receiving a close connection request for a connection, indicating

the connection as available (when a connection is returned to the connection pool, the

connection is available for the connection request waiting in the wait queue unit 250 in

figure 2, see, e.g., page 6, paragraph [0049]).

Regarding claim 22, Bhogi teaches as follows:

in response to the heuristic interrupt event (interpreted as a configuration request

event), initializing a timeout value for all available connections in the connection pool

(maximum idle connection time parameter is reset upon the configuration request, see,

e.g., page 5, paragraph [0040], lines 31-34).

4.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhogi et

al. (hereinafter Bhogi)(U.S. Pub. No. 2004/0088413 A1) in view of Yamada et al.

(hereinafter Yamada)(U.S. Patent No. 5,365,582), and further in view of Mousseau et al.

(hereinafter Mousseau)(U.S. Pub. No. 2004/0078495 A1).

Regarding claim 13, Bhogi teaches all the limitations of claim except for teaching of Java Database Connectivity connections.

Mousseau teaches as follows:

The Java Database Connectivity (JDBC) component can configure and manage database connectivity such as data sources and connection pools, see, e.g., page 12, paragraph [0153] and [0154]).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Bhogi in view of Yamada to include JDBC for database connectivity with connection pools as taught by Mousseau in order to efficiently and securely connect the clients to the database via the connection pool.

5.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhogi et al. (hereinafter Bhogi)(U.S. Pub. No. 2004/0088413 A1) in view of Yamada et al. (hereinafter Yamada)(U.S. Patent No. 5,365,582) and Mousseau et al. (hereinafter Mousseau)(U.S. Pub. No. 2004/0078495 A1), and further in view of Chong et al. (hereinafter Chong)(U.S. Pub. No. 2004/0064552 A1).

Regarding claim 14, Bhogi in view of Yamada and Mousseau teach all the limitations of claim except for teaching of Java 2 Connector connections.

Chong teaches as follows:

The J2C pool is used for physical connections (see, e.g., page 5, paragraph [0062]).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Chong with Bhogi in view of Yamada and Mousseau to include J2C

connection for database connectivity with connection pools as taught by Chong in order

to efficiently and securely connect the clients to the database via the connection pool.

6.   Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bhogi et al. (hereinafter Bhogi)(U.S. Pub. No. 2004/0088413 A1) in view of Yamada et

al. (hereinafter Yamada)(U.S. Patent No. 5,365,582) as applied to claims 1 and 18

above, and further in view of Desai (U.S. Pub. No. 2004/0221031 A1).

Regarding claim 23, Bhogi teaches as follows:

in response to a request to flush the connection pool, the main unit may destroy

the connections currently in the pool and not in use (see, e.g., page 4, paragraph

[0029]).

Even though setting minimum number of connections in pool when establishing

connection pool is inherently included, Bhogi does not specify the minimum number of

connections as one of connection pool attributes.

Desai teaches as follows:

an apparatus and method are provided of communicating between an application

and a server including establishing a connection pool to the server (see, e.g., abstract);

minimum number of connections in pool (see, e.g., page 6, paragraph [0069]

and 810 in figure 8);

maximum number of connections in pool (see, e.g., page 6, paragraph [0070]

and 820 in figure 8); and

destroying idle connections (setting a connection timeout parameter is for

removing a connection from the connection pool if the timeout parameter is satisfied,

see, e.g., page 6, paragraph [0072] and 850 in figure 8).

Therefore, it would have been obvious for one of ordinary skill in the art at the

time of the invention to modify Bhogi in view of Yamada to include destroying idle

connections in pool based on the minimum number of connections in pool set by

establishing step of the connection pool as taught by Desai in order to maintain efficient

number of connections in pool.

Regarding claims 24 and 25, they are rejected for similar reason as presented

above per claim 18.

Regarding claim 26, Bhogi teaches that the data source comprises a database

(the backend system, is equivalent to applicant's data source as presented above in

claim 1, comprises database 380A in figure 3, see, e.g., page 4, paragraph [0037]).

Response to Arguments

7.   Applicant's arguments filed 9/26/2008, with respect to claims 1-3, 5-8, 10-19 and

22-25 have been considered but are moot in view of the new ground(s) of rejection.

A.   Summary of Applicant's Arguments

In the remarks, the applicant argues as followings:

1) Regarding amended claims 1, 7, 15 and 18, Bhogi in view of Yamada fail to teach "in response to the heuristic timer interrupt event...adding new connections to the connection pool if the current connection pool size is less than the specified maximum number of connections associated with the current time of day."

2) Regarding claims 13 and 14, Mousseau and Chong fails to teach about the details of connection pool management.

B.   Response to Arguments:

In response to argument 1), Bhogi teaches as follows:

In one embodiment, a dynamically configurable resource pool may be a connection pool that services requests for connections to a backend system resource. Upon receiving a request, the main unit may determine if a connection is available in the pool. Different dynamically configurable resource pools may be provided for different types of connections, e.g. to different backend resources. If an unassigned connection exists in the requested pool, the main unit may assign the connection to the requester. Furthermore, if an unassigned connection does not exist in the pool, and the current pool size is less than the maximum pool size, then the main unit may establish a connection and assign the connection to the requester. If an unassigned connection does not exit in the pool, and the current pool size is equal to the maximum pool size, then the wait queue unit may place the request for connection on the wait queue and monitor connection usage for the return of connections to the pool. When a connection is returned to the connection pool, the connection pool manager may once

again determine if an unassigned connection exists in the pool to satisfy a pending

request (see, e.g., page 2, paragraph [0011]); and

Given a limitation on resources that may be devoted to the connection pool, it

may be desirable to <u>implement a set of connections corresponding to the most frequent</u>

<u>connection requests received by the connection pool</u>. It may be that the frequency

distribution of requests for connections varies as a function of parameters such as time

of day, so that a connection pool containing a set of connections optimized to meet the

connection demands of morning clients may be quite different from a set optimized for

evening clients (see, e.g., page 1, paragraph [0007]).

Therefore, Bhogi teaches all the limitations of claim with a dynamic

reconfiguration request to change the maximum number of connections at the current

time as presented above instead of requesting reconfiguration at pending time as

scheduling the maximum number of connections for certain period of time.

Yamada teaches the deficiency of requesting a scheduled reconfiguration as

follows:

a maximum connection number management table with the maximum number of

connection defined for each time period (see, e.g., col. 12, lines 12-23); and

the maximum number of connections corresponding to the present time period is

read from the pattern data corresponding to the pattern (see, e.g., col. 12, lines 24-37).

It would have been obvious for one of ordinary skill in the art at the time of the

invention to modify Bhogi to include requesting a scheduled reconfiguration as taught by

Yamada in order to automatically change the maximum number of connections based

on the predetermined schedule.

In response to argument 2), Bhogi teaches details of connection pool

management as presented above.

Mousseau teaches the deficiency of Bhogi of teaching of Java Database

Connectivity connections used in connection pools as follows:

The Java Database Connectivity (JDBC) component can configure and manage

database connectivity such as data sources and connection pools (see, e.g., page 12,

paragraph [0153] and [0154]).

Chong teaches the deficiency of Bhogi of teaching of Java 2 Connector

connections used in connection pools as follows:

The J2C pool is used for physical connections (see, e.g., page 5, paragraph

[0062]).

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEONG S. PARK whose telephone number is (571)270-1597. The examiner can normally be reached on Monday through Friday 7:00 - 3:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. P./
Examiner, Art Unit 2454

May 5, 2009

/Nathan J. Flynn/
Supervisory Patent Examiner, Art Unit 2454